BIBLIOGRAPHY

MATIAS, SHERWIN D. APRIL 2013. Growth Performance of Native Chickens Given Ornamental Peanut Plant (*Arachis pintoi*) and Commercial Feeds. Benguet State University, La Trinidad, Benguet.

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ABSTRACT

The study was conducted to determine the effect of ornamental peanut on the performance of native chicken specifically on the gain in weight, feed efficiency and carcass yield. It also aimed to determine the profitability of the raising native chickens given ornamental peanut and commercial feeds. This study was conducted at brgy. Digdig, Carranglan, Nueva Ecija.

There were 32 native chickens ranging from 22 to 42 day old involved in the study, which were distributed following the Randomized Complete Block Design (RCBD). There were two treatments used blocked into four with four birds per block. Treatment 0 received commercial feeds *ad libitum* while treatment 1 received ornamental peanut plant and commercial feeds on a restricted time.

Over a period of 84 days of feeding trial, the birds were able to attain a mean total gain in weight of 1.106kg, from a mean initial weight of 0.152kg to a final weight of 1.255kg. The birds had a mean consumption of 4.811kg per head on a dry matter basis yielding a feed conversion ratio (FCR) of 4.388 and Php153.72 feed cost to produce a kg

gain in weight. Profits obtained per peso invested from the sales of the birds were 15.19% and 7.59% in treatment 0 received commercial feeds only and treatment 1 received ornamental peanut and commercial feeds, respectively. After slaughtering and dressing the sample birds, a mean dressing percentage of 63.18% was obtained.

Except for the return on investment, statistical analysis shown that on all parameters evaluated, the performance of the native chickens was not enhanced or improved by giving ornamental peanut.

Lower returns from the native chickens given commercial feeds + ornamental peanut plant was accounted to more labor spent in the preparation of the feedstuff.

INTRODUCTION

The Philippine native chicken is the common village chicken raised in backyards throughout the country. Such chickens are sometimes turned loose to scavenge, while some are housed in semi-confinement. Although native chicken are comparatively poor egg and meat producers, they remain an important source of much needed animal protein and also bring extra income to farmers.

Most farmers prefer to raise native chickens rather than imported exotic breeds, because of the ability to survive under harsh conditions and to reproduce regularly even under minimal care and management. Native chicken are relatively resistant to common poultry diseases and need little or no feed concentrates. Now that the nutritional importance of the native chicken and its potential for generating income has begun to be appreciated, some farmers in the Philippines are raising native chickens in a semi-commercial system, at a very low operational cost. Native Chickens indicate that the hen lays 40 to 60 eggs per year and becomes broody 3 to 4 times a year, producing some 30 to 35 chicks per year (FFTC, 1992).

According to poultry specialists with the Department of Agriculture recently, native chickens have failed to sustain their potential as a steady source of meat products. The blame seems to fall on the people's attitude of confining the raising of native breeds to backyard farming and the rapid commercialization of free-range chickens (Wiebe *et al.*, 2011).

Ornamental perennial peanut plant (*Arachis pintoi*), also known *as mani – mani* is a potential feed supplement for native chickens. Several researches were conducted on its use as feed for livestock and were found to improve the animals' performance. However,

studies on its use as feed supplement for poultry particularly on native chicken is very limited. Hence, it is interesting to research on the potential of this plant as feed supplement for the native chickens. Also, this feedstuff is readily available and we can see and produce it everywhere as ground cover for our garden.

The result of this study would help the native chicken growers on either commercial or backyard raising. Moreover, it could serve as a guide for other researchers on the use of ornamental perennial peanut plant as feed for native chickens. There are just a few who want engage in growing native chicken for commercial purposes because of their slow growth rate. Giving the birds ornamental perennial peanut supplemented with commercial feeds, if found to improve the growth performance of native chickens and give reasonable profit will encourage backyard raisers and interested individual to adapt this ration.

Generally, this study was conducted to determine the effect of feeding ornamental peanut plant with commercial feeds on the growth performance of the native chicken. Specifically it aimed to determine the effect of ornamental perennial peanut on the following:

1. the final weight, the gain in weight, the feed consumption, the feed conversion ratio of the native chickens;

2. the rate of morbidity and mortality of the native chickens; and,

3. the profitability of raising native chicken given ornamental peanut plant with commercial feeds.

This study was conducted at Brgy. Digdig, Carranglan, Nueva Ecija from October 2012 to January 2013.

REVIEW OF LITERATURE

The Philippine Native Chicken

These feathered scavengers are descendants of the Red Jungle Fowl of Asia, from which the modern day white or colored chickens of the world originated. In the Philippines, this Red Jungle Fowl still exists and is popularity called the *Labuyo*, the Philippine wild chicken. Over time, this chicken has evolved due to the unabated infusion of exotic breeds from US and recently the French and Israel range chickens. Because of this the real native strain is believed to be almost impossible to find. Nowadays, the evolved local strain is called the Philippine chicken. In spite of the high level advancement of the commercial poultry industry, the Philippine chicken has remained popular (Villar, 2005).

According to Manila Bulletin (2005), in an article about agriculture, geneticists and breeders define this genotype as having evolved from the indiscriminate breeding between the indigenous stocks and the exotic purebreds that were introduced into the country a long time ago. The breed has undergone a long process of natural selection under local environments with no known infusion of exotic blood during its recent past, and was able to survive and reproduce under local environmental conditions with minimal management intervention.

Through a long process of natural selection, several strains have evolved in the different regions/island groups of the country namely: the *Bolinao* strain in Pangasinan, the *Banaba* in Batangas, the *Camarines* in Bicol, the *Paraoakan* in Palawan and the *Darag* in Panay Island. These groupings were characterized and identified through extensive researches (FFTC, 1992).

Importance of the Philippine Native Chicken

Fondly known as “the chicks for the poor”, these scavenging chickens play an important role in supporting the farmers’ livelihood by fulfilling a range of functions including: provision of meat and eggs, provision of income to farmers and related industries, efficient utilization of farm by products and control of pests in the, family food security asset, fulfillment of various socio-cultural obligations of small hold farmers, and contributes to local economy. Apart from aforementioned socio-economic value, these indigenous poultry species is also considered as a genetic treasure just as other developed countries like Japan, Korea, and China consider their indigenous animals as national treasures (WESVARRDEC, 2006).

Native Chicken Industry Status

It is estimated that 54.74% of the total chicken population of the country are native chicken distributed as follows: Western Visayas, 13.32%; Southern Mindanao, 10.63%; Southern Tagalog, 9.51%; Central Visayas, 10.36%; Cagayan Valley, 9.29% (PIN, 2003).

Ornamental Perennial Peanut

Arachis pintoi is a perennial, low growing, ground cover species. This plant is a member of the leguminosae family which can fix nitrogen from the atmosphere. Based on the several fact sheets, *Arachis pintoi* is one of the most promising multipurpose legume cover crops with possible uses as: Living mulch in no-till vegetable production fields and orchards, forage animal feeding, and ornamental ground cover along highway, ramps and sidewalks, (Abdul-Baki *et al.*, 2002).

The perennial peanut evolved in tropical conditions and it's adapted to subtropical and warm temperate climates. In the northern hemisphere, this would include locations below 32 degrees north latitude (Florida Georgia state line) having a long, warm growing season (Rouse *et al.*, 2001).

Perennial peanut was first introduced from Brazil in 1936 and since that time no insect, disease, or nematode pests have been identified that cause economic loss. Since its introduction, it has not spread into natural areas or become a nuisance plant in unimproved properties. Rhizomal perennial peanut does not produce by seed; therefore, it can't be carried by birds or wildlife or transported in plant material to unintended areas, (Rouse *et al.*, 2001).

Perennial peanut can be grown in sandy or clay soil (Cook, 1992). It tolerates high level of aluminum and manganese but has low tolerance for sanity, tolerates flooding and can grow well under heavy (70 – 80 %) shade. Perennial peanut can survive in areas with annual rainfall of 1,000 mm or less, but grows best with over 1,500 mm/yr. and survives dry seasons of 3-4 months (Cook *et al.*, 2007).

Nutritive value varies with ecotype or cultivar, and declines with age of material. Values range from 10-18% Crude protein and 45-68% *In Vitro* Organic Matter Digestible for material cut twice a year and up to 22% Crude protein and 77% *In Vitro* Organic Matter Digestible for material cut more regularly. Phosphorus levels of 0.15% have been recorded in *Arachis pintoi* growing in extremely infertile soils, and up to 0.52% in well-fertilized soils (CSIRO Sustainable Ecosystems *et al.*, 2005).

Perennial Peanut as Livestock Feed

Some literature shows mutual benefit of integrated legumes-grass pasture: perennial peanut as fodder, improved forage quantity and quality, and increased milk production, stocking and calving rate, and also increased cattle weight. The benefits come about because of the higher content of perennial peanut compared with nutrient content in grass alone and also because of the higher biomass production in grass-legumes pasture. As a livestock fodder, perennial peanut has a positive effect for the soil and livestock (Rivas and Holmann, 2000).

According to Firth (1995), perennial peanut has many benefits and strengths such as; it is excellent for soil conservation, it improves soil quality, it is a good source of compost, it promotes tree growth, it is a choice livestock feed, it could control diseases, it could suppress weed growth, it is hardy ornamental plant, and it is good source of nectar for bees.

A study of Venuto *et al.*, (1999), a considerable benefit of perennial peanut hay for the horse market has been product consistency. The most immature, high protein growth cannot be effectively harvested for hay. Sufficient growth for acceptable hay yields tropically results in hay of 14% to 16% crude protein. This is an appropriate level of protein for the horse market. Premium alfalfa hay will range from slightly below this level of crude protein to more than 20%. This large range in crude protein, as well as occasional dust and mold problems, has been associated with digestive disorders of horses consuming alfalfa hay.

In research studies conducted in Florida and Georgia, perennial peanut forage has been found to be highly nutritious for beef and dairy cattle, and goats (Bennette *et al.*,

1995). They reported that goats fed perennial peanut hay actually had slightly greater digestibility of dry matter, fiber, and protein than those fed the alfalfa hay control. The goats also voluntarily ate more perennial peanut hay than alfalfa hay. Hammond *et.al*, (1992) found that perennial peanut forage is suitable protein and energy supplement feed for wintering cattle, especially for those on low protein grass hay. Thus, for ruminant animals (cattle, sheep and goats) perennial peanut is very nutritious and well liked. The nutritional quality of perennial peanut appears to be as good as alfalfa.

Typical composition of perennial peanut hay grown in South Georgia and north Florida (100% dry matter basis) according to Eckert (2008) are crude protein 14.0, neutral detergent fiber 42.0 %, acid detergent fiber 32.0 %, lignin 9.0 %, total mineral matter (ash) 10.0 %, total digestible nutrient 60.0 %, horse digestible energy 1.1 Mcal/lb, relative feed value 145.0, relative forage quality 140.0, calcium 1.3 %, phosphorus 0.2 %, potassium 1.4 %, magnesium 0.5 %, copper 6.0 %, and zinc 34.0 %.

Eckert (2008) also conducted an *in vitro* study to evaluate the potential digestibility of various perennial peanut hays. *In vitro* (Latin for "within the glass") procedures simulate digestion by animals in the laboratory. The most common *in vitro* digestibility procedures were developed to simulate digestion by cattle. There are now procedures to simulate digestion by horses. One such procedure was used to evaluate several perennial peanut hays, including hays of two perennial peanut varieties. The *in vitro* digestibility of all perennial peanut hays was good as or greater than alfalfa.

MATERIALS AND METHODS

Materials

Thirty-two native chickens (Figure 1) with varying ages ranging from 22 to 42 days old from different broods were used as experimental animals. Experimental birds include those non-descript breeds of chicken commonly raised in the backyards. The materials used were commercial feeds, chopped perennial peanut plant, cages, feeders, waterers, knives, containers, weighing scale and recording materials.

Figure 1. Native chicks at 22 to 42 days old

Methods

Preparation of cages, feeders and waterers. The cages were made up of scrap woods and split bamboo poles (Figure 2). It was divided into compartments of about 1 m x 0.7 m to accommodate four birds. Feeders and waterers were cleaned and disinfected a week before the start of the study.

Figure 2. Cages used in the study

Procurement of stock. Experimental birds were bought from different owners at Carranglan, Nueva Ecija.

Experimental design and treatment. Due to the difficulty in acquiring birds of homogenous ages, experimental birds included those birds ranging from 22 days to 42 days. These were then grouped into four blocks as follows;

Block 1 – 22 days to 28 days

Block 2 – 29 days to 35 days

Block 3 – 32 days to 36 days

Block 4 – 36 days to 42 days

The experimental birds were distributed at random into two treatments following the Random Completely Block Design (RCBD) with four blocks per treatment. Each block had four birds making a total of 16 birds per treatment.

The following are the different treatments used in the study:

T_0 – commercial feeds

T_1 – commercial feeds + ornamental peanut plant

The feed to be given to the birds was introduced for a week before the actual start of the study for them to adjust. After this adjustment period, they were weighed individually to obtain their initial weight.

Preparation of ornamental peanut plant. Ornamental peanut plants (Figure 3) were harvested from a garden in a backyard at Brgy. Digdig, Carranglan, Nueva Ecija. The ornamental peanut plants were washed thoroughly to remove unnecessary particles then set aside for 30 minutes for air drying. Then this was chopped into small pieces of about 0.5 cm.

Figure 3. Preparation of ornamental peanut

Feeding scheme. For the control treatment (T_0), the commercial feeds were given *ad libitum*. For treatment 1, the commercial feeds and the chopped perennial peanut were given separately. The time of giving commercial feeds was restricted. It was offered twice a day from 7 am to 8 am in the morning and 4 pm to 5 pm in the afternoon. After the specified time, any left-over was withdrawn and measured as left-over. On the other hand, the ornamental peanut was given *ad libitum* from 9 am to 3 pm. After the specified time, any left-over was withdrawn, too. This scheme was followed all throughout the study. This feeding trial lasted for 84 days.

Care and management. All birds were subjected to the same care and management, except for the ration which depended on the treatment where they were assigned. The native chickens were confined all throughout the study.

Dressing. This was done a day after the feeding trial. Two sample birds from each block per treatment were taken at random and fasted for 12 hours before slaughtering. The proper procedure in dressing poultry was followed to ensure a quality carcass. The steps done are as follows: sticking, scalding, defeathering, removal of the head, feet, neck, and internal organs.

Data Gathered

The data gathered were as follows:

1. Initial weight (kg). Using a digital weighing scale, individual weights of the birds was taken on the first day of feeding experiment where they were about 22 days to 42 days.

2. Final weight (kg). This was taken by weighing the birds individually after 84 days of feeding trial when the chickens are 106 days to 126 days old.

3. Amount of feeds offered (kg). This was taken by weighing all the feeds offered at the start until the end of the study.

4. Amount of feed left over (kg). This was taken by weighing the amount of spilled or refused feeds.

5. Dry matter content of feeds (g). This was taken by measuring the mass of feeds after oven drying to a constant weight.

6. Mortality. These are the number of birds that died during the study.

7. Morbidity. These are the number of bird affected with diseases during the study.

8. Production cost. This includes all direct and indirect costs incurred during the study.

9. Live weight/ Slaughter weight (kg). This is the weight of the 12 hours fasted sample birds prior to slaughter.

10. Dressed weight (kg). This is the weight of the slaughtered sample birds after removal of feathers, head, neck, feet and entrails.

Data Computed

1. Total gain in weight (kg). This was obtained by subtracting the initial weight from final weight of the birds.

2. Daily gain in weight (kg). This was taken by subtracting the initial weight from the respective daily weight.

3. Weekly gain in weight (kg). This was taken by subtracting the initial weight from the respective weekly weight.

4. Total feed consumption (kg).This was the amount of feeds consumed by the birds from the start of the study until the end of the study.

5. Percent dry matter of feeds (%).

a. % DM of ornamental peanut plant. This was obtained by dividing the weight of dry matter of ornamental peanut plant by its fresh weight and multiplied by 100.

b. % DM of commercial feeds. This was taken by subtracting the % moisture content of the feeds (based on the label) from 100%.

6. Dry matter intake (DMI). This was obtained by multiplying the fresh weight intake by the percent dry matter of feeds.

7. Mortality rate (%). This was the percent of birds that died computed by dividing the number of birds died by the total number of birds multiplied by 100.

8. Morbidity rate (%). This was the percent of birds affected with diseases computed by dividing the number of birds affected with diseases by the total number of birds multiplied by 100.

9. Feed conversion ratio. This was obtained by dividing the total feed consumption by the total gain in weight.

10. Feed cost per kg gain (Php/kg). This was obtained by multiplying the feed conversion ratio by the cost per kg of feeds.

11. Return on Investment (%). This was computed using the formula:

$$\text{ROI} = \frac{\text{Gross income} - \text{Production cost}}{\text{Production cost}} \times 100$$

12. Dressing percentage (%). This was taken by dividing the dressed weight by the live weight then multiplied by 100.

Statistical Analysis

All data were subjected to Analysis of Variance (ANOVA) appropriate for Randomized Complete Block Design (RCBD). Means were compared using Least Significant Difference (LSD) test.

RESULTS AND DISCUSSION

Body Weight

Initial weight. The mean initial weight of the native chickens is shown in Table 1 and there appearance at 22 to 42 days is shown in Figure 4. Birds given commercial feeds (T_0) and those given commercial and ornamental peanut plant (T_1) had the same mean initial weight of 0.152kg, hence, no statistical difference.

Mean initial weight of the birds among blocks shows that block 2 and block 3 are not significantly different since the gap in the ages of the birds between the said blocks are not as far as the gap in ages of the birds in blocks 1 and 4.

Final weight. The mean final weight of native chickens is shown in Table 1 and photos on Figure 5. There is no significant difference as shown in the statistical analysis between the birds given commercial feeds only and those given commercial feeds plus ornamental peanut plant. This means that the final weight of treatment 1 (commercial feeds + ornamental peanut plant) that is 1.261kg is not different to the mean final weight of treatment 0 (pure commercial feeds) that is 1.249 kg. This indicates that the native chickens fed with commercial feeds plus ornamental peanut plant on a restricted basis grew as fast as those birds given pure commercial feeds *ad libitum*.

Figure 5 shows the mature native chickens at 15 to 18 weeks of age. The final weights attained by the birds were comparable to the weight of native chickens under improved management which is 1kg (PCARRD, 2000). Though the weight was improved, their growth was slow as attributed to their genetic make-up.

Table 1. Mean initial and final weight of the native

	BODY WEIGHT (kg)	
	INITIAL	FINAL
Commercial feeds	0.152	1.249
Commercial feeds + ornamental peanut plant	0.152	1.261

*Means with the no superscript are not significantly different at 5% level of significance by LSD.

Figure 4. Native chickens at the start of the experimental period

Figure 5. Native chicken at 15 to 18 weeks (106 to 126 days)

Growth Parameters

Table 2 presents the gains in weight of the native chickens on daily and weekly basis as well as the total gain in weight after 84 days or 12 weeks of feeding.

Average daily gain in weight. Both treatments had a mean average daily gain of 0.01267kg which implies that the ornamental peanut plant did not affect the birds' ability to gain weight on daily basis. The daily gain in weight of the native chicken is lower compared to the average daily gain of broiler that is 0.0150kg (Butcher, 2004).

Weekly gain in weight. Statistical analysis shows no significant difference between treatment 0 (0.088kg) and treatment 1 (0.089kg). This is the same with the result on daily gain in weight. Figure 1 shows that the weekly increments on the weight of the birds in both treatments are almost the same. This result coincides with the average daily gain in weight of the birds.

Table 2. Average daily gain, weekly gain, and total gain in weight

	GAIN IN WEIGHT (kg)		
TREATMENT	DAILY GAIN	WEEKLY GAIN	TOTAL GAIN
Commercial feeds	0.01267	0.08814	1.097
Commercial feeds + ornamental peanut plant	0.01267	0.08869	1.114

*Means with the no superscript are not significantly different at 5% level of significance by LSD.

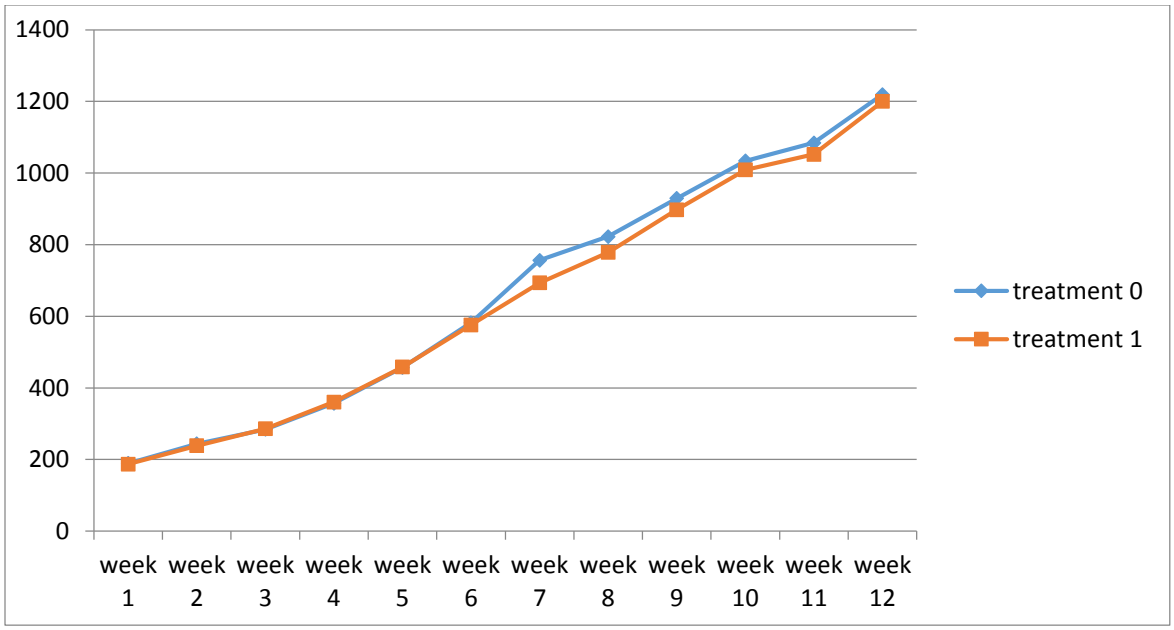

Figure 6. Weekly weight

Total gain in weight. Native chickens in treatment 0 (commercial feeds) had a total gain in weight of 1.097kg that is not significantly different to treatment 1 (commercial feeds and ornamental peanut plant) that gained 1.114kg. These results are consistent with the data on final weight where native chickens with the heaviest final weight had also the biggest gain in weight.

Total Feed Consumption

Table 3 shows the total amount of feeds consumed by the native chickens in both treatments. Statistical analysis shows that treatment means are not significantly different from each other. T_0 consumed commercial feeds with a mean of 5.265kg/head while T_1 consumed commercial feeds with a mean of 4.136kg/bird and 0.222kg/bird of ornamental peanut plant (dry matter basis) having a total mean of 4.358kg/bird. This results means that even if birds in treatment 1 (commercial feeds + ornamental peanut

Table 3. Total feed consumption per bird

TREATMENT	TOTAL FEED CONSUMPTION (kg) (AS FED)	(DRY MATTER)
Commercial feeds	5.922	5.265
Commercial feeds + ornamental peanut plant	4.429	4.358

*Means with the no superscript are not significantly different at 5% level of significance by LSD.

plant) were given feeds at a restricted time, they were able to consume feeds (4.136kg/bird) as much as those birds in treatment 0 (commercial feeds) given on *ad libitum* basis with a mean of 5.265kg/bird.

Feed Conversion Ratio

Table 4 presents the mean feed conversion ratio of native chickens given commercial feeds and those given commercial feeds + ornamental peanut plant with means of 4.799 and 3.976, respectively.

Statistical analysis detected no significant difference between the treatments. This connotes that the birds fed commercial feeds + ornamental peanut plant were able to convert the same amount of feeds to gain a kilogram in weight when compared to those birds in control group (commercial feeds).

The feed conversion ratio of the native chickens in this study is much poorer than the average FCR for broilers which is 2.0 (Vencobb, 2010). The birds' poor ability to convert feeds into a unit gain in weight is attributed to their genetic make-up, wherein even under improved feeding system they cannot be at par with its commercial counterpart.

Feed Cost Per Kilogram Gain

As presented in Table 5, statistical analysis revealed no significant differences between the treatment means in feed cost per kg gain in weight. T_0 (pure commercial feeds) had a mean of Php168.476 per kg while T_1 (commercial feeds + ornamental peanut plant) had Php138.963. This means that the amount of money spent for the feeds to produce kg gain in weight was comparable in both treatments. Feed costs across blocks also show that regardless of age, the same cost would be incurred to produce a kg gain of weight.

Commercial feeds were bought at Php32.00/kg while ornamental peanut plant was Php16.50/kg for the labor spent in gathering and preparation.

Table 4. Mean feed conversion ratio

TREATMENT	FCR
Commercial feeds	4.799
Commercial feeds + ornamental peanut plant	3.976

*Means with the no superscript are not significantly different at 5% level of significance by LSD.

Table 5. Mean feed cost per kilogram gain

TREATMENT	FEED COST per kg GAIN (Php)
Commercial feeds	168.476
Commercial feeds + ornamental peanut plant	138.963

*Means with the no superscript are not significantly different at 5% level of significance by LSD.

Mortality and Morbidity

Majority of the birds had colds after the first month of the feeding trial where they were about seven to ten weeks old shown in Table 6. This was due to the inclement weather condition at the experimental place. Most of them recovered, however, two birds died from T_0 (commercial feeds) while four birds from T_1 (commercial feeds + ornamental peanut plant). Figure 7 shows the picture of the birds with colds.

Table 6. Mean mortality and morbidity rate

TREATMENT	MORBIDITY (%)	MORTALITY (%)
Commercial feeds	50.00	12.50
Commercial feeds + ornamental peanut plant	50.00	25.00

*Means with the no superscript are not significantly different at 5% level of significance by LSD.

Figure 7. Sick birds from both treatment

Return on Investment

Table 7 shows that higher return (15.19%) was obtained in T_0 (commercial feeds) than in T_1 (commercial feeds + ornamental peanut plant) with 7.79%. Lower return on the latter treatment was due to more time spent inT_1 for preparing the feeds ration, hence higher labor cost. However, on feed cost *per se* (Appendix 12), it shows that T_1 is more economical.

Carcass Yield

Table 8 shows the mean slaughter weight, carcass weight and dressing percentage of the T_0 (commercial feeds) and T_1 (commercial feeds + ornamental peanut plant). There were no significant differences between treatments on all parameters.

Treatment 0 had a mean carcass weight of 0.822kg and dressing percentage of 63.99%, while treatment 1 had 0.807kg and 63.29%, respectively. These results indicate that the carcass weight and dressing percentage of the birds in both treatments were not affected by the diets given.

The mean dressing percentage of 63.64% is lower compared to the average dressing percentage of broilers which is 70%. One factor that could practically be considered is the fact that the native chickens had minimal fats in their carcass even when fed with highly energy diet. Broilers have much fat deposits in their carcasses which add weight to their carcass yield.

Table 7. Return on investment

TREATMENT	GROSS INCOME (Php)	NET INCOME (Php)	RETURN ON INVESTMENT (%)
Commercial feeds	5,290.75	697.59	15.19
Commercial feeds + *mani-mani*	4,488.00	316.50	7.59

*Means with the no superscript are not significantly different at 5% level of significance by LSD.

Table 8. Carcass yield

TREATMENT	SLAUGHTER WEIGHT (kg)	DRESSED WEIGHT (kg)	DRESSING PERCENTAGE (%)
Commercial feeds	1.289	0.822	63.989
Commercial feeds + ornamental peanut plant	1.271	0.807	63.286

*Means with the no superscript are not significantly different at 5% level of significance by LSD.

SUMMARY, CONCLUSION, AND RECOMMENDATION

Summary

Ornamental peanut plant, commonly known as *mani-mani*, is a tested feed for ruminant especially horses. However, no data are available to show how native chickens perform when fed with this feedstuff. Hence, this study was conducted to evaluate the performance of native chickens given ornamental peanut plant with commercial feeds. The feeding experiment was undertaken in a backyard at Brgy. Joson, Carranglan, Nueva Ecija from October 2012 to January 2013.

The study verified the gain in weight, feed efficiency and carcass yield of native chickens given ornamental peanut plant with commercial feeds and made a cost and return analysis on native chicken production using this ration. There were 32 native chickens ranging from 22-42 days old involved in the study. All the native chickens were completely confined throughout the study (84 days) and given the same care and management except for the ration given.

There were two treatments blocked into four with four birds per block. Birds in treatment 0 were given commercial feeds only while birds in treatment 1 were given ornamental peanut plant and commercial feeds. Both treatments yield the same results on initial weight, final weight, total gain in weight, daily and weekly gain in weight, feed consumption, feed conversion ratio, feed cost per kg gain, carcass weight and dressing percentage.

Over a period of 84 days of feeding trial, the birds were able to attain a mean total gain in weight of 1.106kg, from a mean initial weight of 0.152kg to a final weight of 1.255kg. The birds had a mean consumption of 4.811kg per head on a dry matter basis

yielding a feed conversion ratio (FCR) of 4.388 and Php153.72 feed cost to produce a kg gain in weight. Profits obtained per peso invested from the sales of the birds were 15.19% and 7.59% in treatment 0 and treatment 1, respectively. After slaughtering and dressing the sample birds, a mean dressing percentage of 63.18% was obtained.

Results showed that the native chickens given ornamental peanut plant and commercial feeds on a restricted time had the same performance with those given commercial feeds *adlibitum*. However, lesser return was obtained from the former treatment because of the additional labor spent in the preparation of ornamental peanut plant.

Conclusion

Based on the findings of this research, it is concluded that the ornamental peanut plant had the same effect on the performance of native chicken given commercial feeds only. Thus, supplementation of this feedstuff to poultry especially native chicken did not enhance nor depressed their performance.

Recommendation

It can be recommended for backyard raisers using the cage system on native chicken production and those who are interested to engage on this production to adopt the use of commercial feeds and ornamental peanut plant following the restricted time of feeding as done in this study to minimize wastage of feeds.

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